

REMARKS

This application has been carefully reviewed in light of the Office Action dated April 20, 2004. Claims 31 to 66 and 70 to 74 are pending in the application, of which Claims 1, 7, 12, 25, 27 to 30, 32 to 34 and 41 to 43 are independent. Reconsideration and further examination are respectfully requested.

Initially, Applicants thank the Examiner for the continued indication that Claims 31 to 66 are allowed.

The allowed claims have been amended to correct the antecedent basis of some of the claims. Applicants respectfully submit that the amendments have not altered the scope of the allowed claims.

Claims 70 to 72 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,488,429 (Kojima) in view of U.S. Patent No. 6,408,301 (Patton). Reconsideration and withdrawal of this rejection are respectfully requested.

Turning to specific claim language, amended independent Claim 70 is directed to a method of detecting a face in a color digital image formed of a plurality of pixels. The method includes the steps of: testing the color of the plurality of pixels to determine those pixels having predominantly skin color, the testing utilizing at least one threshold dependent on at least one image capture condition provided with the color digital image, the image capture condition being expressed as metadata and not depending on a brightness of the digital image data; and executing a facial feature analysis based on the pixels determined as having predominantly skin color in the testing step.

In contrast, Kojima discloses that when a color-difference signal is in a scope of a luminance signal, the color is determined to be skin color and a skin color region is detected, so that the luminance correction and the color correction are executed only in the detected region.

Kojima further discloses a threshold used in detecting skin color depends on the luminance value of the image, and is calculated from the image data. Conversely, the image capture condition of the present invention does not depend on the luminance value, but depends on a capture condition in capturing digital images. As such, Kojima is not seen to disclose or suggest testing the color of the plurality of pixels to determine those pixels having predominantly skin color, the testing utilizing at least one threshold dependent on at least one image capture condition provided with the color digital image, the image capture condition being expressed as metadata and not depending on a brightness of the digital image data

Furthermore, Patton discloses the use of metadata, which contains a luminance feature of an image captured from a scene. However, Patton fails to disclose or suggest the other features of the invention that are missing from Kojima, namely, testing utilizing at least one threshold dependent on at least one image capture condition provided with the color digital image, the image capture condition and not depending on a brightness of the digital image data. Therefore, modification of Kojima using the disclosures of Patton fails to cure the deficiencies of Kojima.

In light of the deficiencies of Kojima and Patton as discussed above, Applicants submit that Claim 70 is now in condition for allowance and respectfully request same.

Turning now to Claim 71, Claim 71 is directed to a method of detecting a face in a color digital image formed of a plurality of pixels. The method includes: selecting a threshold from a plurality of thresholds, the selection being dependent on at least one image capture condition provided with the color digital image, said image capture condition being expressed as metadata; testing the color of the plurality of pixels to determine those pixels having predominantly skin color, the testing utilizing at least one threshold; and executing a facial

feature analysis based on the pixels determined as having predominantly skin color in the testing step.

In paragraph 3 of the Office Action, Claim 71 is rejected as being allegedly obvious in view of Kojima and Patton. The remarks contained in the Office Action specifically discuss the “testing” and the “executing” steps recited in Claim 71. However, the remarks provided in paragraph 3 of the Office Action are entirely silent of the specific step contained in Claim 71 of selecting a threshold from a plurality of thresholds, the selection being dependent on at least image capture condition provided with the color digital image, said image capture condition being expressed as metadata.

Specifically, the Office Action provides no reference to either Kojima or Patton as providing a specific disclosure of the step for “selecting a threshold.” Instead, the Office Action at page 3, first paragraph, states:

“Metadata including luminance characteristic would have been highly desirable in the skin detection art due to its threshold function and Patton recognizes that improved comparisons would be expected when expressing image-captured condition as metadata in the system of Kojima.”

However, neither Kojima nor Patton disclose or suggest the selecting step of the present application. In Kojima, a flesh tone detector utilizes a single threshold based on luminance values. Kojima includes no disclosure or suggestion that a plurality of thresholds may be assessed in order for the most appropriate threshold to be “selected”. The metadata recited in Patton arguably may include luminance information; however, there is no disclosure or suggestion contained in Patton that this can be equated to a plurality of stored thresholds. As a consequence, the combination of Kojima and Patton provides neither disclosure nor suggestion of selecting a threshold from a plurality of thresholds, the selection being made as a result of a capture condition expressed as metadata. Patton discloses only the capturing of metadata and

Kojima discloses only the use of a threshold. Therefore, the combination of Kojima and Patton neither discloses nor suggests selecting a threshold from a plurality of thresholds, the selection being dependent on at least one image capture condition provided with the color digital image, said image capture condition being expressed as metadata.

In light of the deficiencies of the applied references as discussed above, Applicants submit that Claim 71 is now in condition for allowance and respectfully requests same.

Claim 72 is directed to a computer readable medium having a computer program recorded thereon substantially in accordance with Claim 71. Therefore, Applicants submit that Claim 72 is also in condition for allowance and respectfully request same.

The remaining dependent claims in this application are each dependent from one of the independent claims discussed above and are therefore believed allowable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the allowability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney may be reached in our Costa Mesa, CA office at
(714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Frank L. Cire', with a long horizontal line extending to the right.

Frank L. Cire
Attorney for Applicants
Registration No. 42,419

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-2200
Facsimile: (212) 218-2200

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